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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
BARNHART, LORA ELIZABETH	

ART UNIT	PAPER NUMBER
1651	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/516,899	MEYTHALER ET AL.	
	Examiner	Art Unit	
	Lora E. Barnhart	1651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 May 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,9,12 and 24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,9,12 and 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendments

Applicant's amendments filed 5/4/09 to claims 1, 3, 9, 12, and 24 have been entered. Claims 4, 36, and 38 have been canceled in this reply. No claims have been added. Claims 1-3, 9, 12, and 24 remain pending in the current application, all of which are being considered on their merits. References not included with this Office action can be found in a prior action. Any rejections of record not particularly addressed below are withdrawn in light of the claim amendments and applicant's comments.

Election/Restrictions

Applicant's election without traverse of the species "a defibrinogenic agent" and "ancrod" in the reply filed on 9/17/08 is still in effect over the claims. Claim 9 is being examined to the extent it reads on the elected species "ancrod," i.e., "wherein the defibrinogenic agent is a functional fragment of a natural or synthetic reptile peptide."

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4, 9, and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 requires administering active agent to a patient having "preconditions to obstructive hydrocephalus symptoms or obstructive hydrocephalus symptoms," which is confusing because it is not clear whether the phrase "or obstructive hydrocephalus

symptoms" is an alternative to the "preconditions" or whether it is intended to be a second set of symptoms for which preconditions may be present. Clarification is required. The examiner suggests that the claim be amended to recite "a subject having obstructive hydrocephalus symptoms or preconditions to obstructive hydrocephalus symptoms."

Claim 1 also refers to "an agent of a natural or synthetic reptile peptide," which is confusing because it is not clear what compositions would be considered "agents of peptides." Clarification is required.

Claim 1 is drawn to a method of reducing cerebrospinal fluid flow obstruction the comprises administering "a therapeutic amount of an agent of a natural or synthetic reptile peptide." This limitation is unclear because the person of ordinary skill in the art could not identify the amount or the period of time for all reptile peptides based on the limited disclosure in the specification. See M.P.E.P. § 2173.05(c), section III. The limitation "natural or synthetic reptile peptide" includes any peptide produced by any reptile; the specification's scope is limited to a few anticoagulant peptides produced by a few reptiles. Identifying the amount of salamander actin that would reduce cerebrospinal fluid flow obstruction, e.g., is not fairly suggested by the specification. Clarification is required.

Applicant's comments regarding the indefiniteness rejections of record have been considered as they pertain to these new rejections, but they fail to overcome them.

Because claims 2, 3, 9, and 12 depend from indefinite claim 1 and do not clarify these points of confusion, they must also be rejected under 35 U.S.C. 112, second paragraph.

Claim 9 refers to "a prodrug of a natural or synthetic reptile peptide," which is confusing because it is not clear what compounds are considered "prodrugs" of peptides. For example, amino acids are the constituent parts of peptides. Clarification is required.

Claim 12 refers to "a prodrug of ancrod," which is confusing because it is not clear what compounds are considered "prodrugs" of peptides. For example, amino acids are the constituent parts of peptides. Clarification is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 9, 12, and 24 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Naff et al. (2000, *Stroke* 31: 841-847) taken in view of Schwartz et al. (1996, U.S. Patent 5,523,292).

Naff teaches treating patients who require an intraventricular catheter (IVC) to treat obstructive hydrocephalus resulting from intraventricular hemorrhage (IVH) with ABBOKINASE, a preparation of urokinase (page 842, column 1, under “Criteria…” and “Treatment Protocol"). Naff teaches administering urokinase every 12 hours until the IVC is no longer necessary (page 842, column 2, paragraph 1). Naff teaches that patients so treated show a significant improvement in 30-day survival because the intracranial pressure (ICP) resulting from obstructive hydrocephalus is lessened (page 845 under “Discussion”). Urokinase is a defibrinogenic agent in that it is a thrombolytic agent, i.e., it dissolves fibrin blood clots (page 845, column 1).

Naff does not teach treating obstructive hydrocephalus by administering a defibrinogenic agent that is a natural or synthetic reptile peptide, e.g. ancrod.

Schwartz teaches that ancrod, a reptile peptide, is a defibrinogenic agent that dissolves blood clots (column 2, lines 32-41). Schwartz teaches that ancrod may be administered in various amounts for various times via various routes to prevent thrombus formation (column 2, line 43, through column 3, line 12).

A person of ordinary skill in the art would have had a reasonable expectation of success in substituting the ancrod of Schwartz for urokinase in the method of Naff

because urokinase and ancrod are both explicitly taught as being useful as defibrinogenic agents that dissolve clots. Therefore, these compositions are functional equivalents in the art, and substituting one for the other would have been obvious at the time of the invention. "When a patent 'simply arranges old elements with each performing the same function it had been known to perform' and yields no more than one would expect from such an arrangement, the combination is obvious." See *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007) at 1395-1396, quoting *Sakraida v. AG Pro, Inc.,* 425 U.S. 273 (1976). It would therefore have been obvious to a person of ordinary skill in the art at the time the invention was made to substitute ancrod for urokinase in the method of Naff because the two agents were known in the art to be functional equivalents.

Therefore, the invention as a whole would have been *prima facie* obvious to a person of ordinary skill at the time the invention was made.

Applicant alleges that the fact that urokinase and ancrod were both known in the art cannot be the sole basis for an obviousness rejection (reply, page 6, paragraph 2). Applicant alleges that "a molecule administered for medical treatment involves a complex interaction and unforeseen potential complications (reply, page 6, paragraph 2). These arguments have been fully considered, but they are not persuasive.
The examiner does not dispute that the fact that two active agents were "known to the art" is insufficient to support a finding of obviousness. However, the rejection is not based merely on the knowledge of the existence of ancrod and urokinase. Naff teaches administering urokinase to treat obstructive hydrocephalus, and Naff recognized that

urokinase is a defibrinogenic agent. Schwartz teaches that ancrod shares this property with urokinase. Given that the art recognized the usefulness of one defibrinogenic agent (i.e., an agent known at the time of the invention to be defibrinogenic) in treating obstructive hydrocephalus, the person of ordinary skill in the art would have been motivated to substitute one defibrinogenic agent for another, with the shared activity providing the basis for a reasonable expectation of success. "When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under §103" (see *KSR International Co. v. Teleflex Inc.,* 82 USPQ2d 1385 (U.S. 2007), at 1397).

Applicant's allegation regarding "complex interactions" and "unforeseen potential complications" is unsubstantiated by evidence or declarations of those skilled in the art. Counsel's arguments cannot take the place of objective evidence. *In re Schulze*, 145 USPQ 716 (CCPA 1965); *In re Cole*, 140 USPQ 230 (CCPA 1964); and especially *In re Langer*, 183 USPQ 288 (CCPA 1974). See M.P.E.P. § 716.01(c) for examples of attorney statements that are not evidence and that must be supported by an appropriate affidavit or declaration. Furthermore, since the specification includes no working embodiments of the claimed invention, the allegation of unpredictability could be construed as an admission that the instant invention would require undue

experimentation to practice and is, therefore, not enabled. In view of the art rejection, the examiner declines to make an enablement rejection at this time, but persuasive urging by applicant that the instant method would not have been reasonably expected to succeed at the time of the invention may necessitate such a rejection.

No claims are allowed. No claims are free of the art.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lora E. Barnhart whose telephone number is (571)272-1928. The examiner can normally be reached on Monday-Thursday, 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Wityshyn can be reached on 571-272-0926. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lora E Barnhart/
Primary Examiner, Art Unit 1651